In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) A monolithic photodetector comprising:

a pixel of a pixel matrix, said pixel further comprising:

a first active area of doped single-crystal silicon including first and second photodiodes having a same surface area, as two charge transfer MOS transistors, and as one storage diode, a cathode of each photodiode being connected to a cathode of the storage diode via one of the charge transfer MOS transistors;

a second active area of doped single-crystal silicon arranged next to a portion of the first active area associated with the second photodiode and including a precharge switch having a first terminal connected to the cathode of the storage diode and a second terminal connected to a reference voltage; and

a third active doped single-crystal silicon area arranged next to the portion of the first active area associated with the first photodiode and including two read MOS transistors in series, the gate of one of the read transistors being connected to the cathode of the storage diode and the drain or the source of one of the read transistors being connected to a processing system,

wherein the surfaces of the second and third active areas exposed to a lighting are substantially identical.

2. (Original) The photodetector of claim 1, wherein the second and third active areas have substantially identical surface areas.

3. (Previously Presented) The photodetector of claim 2, wherein first, second, and third active areas are rectangular, the second and third active areas being of same dimensions and substantially aligned at a same distance from a side of the first active area.

4. (Original) The photodetector of claim 1, wherein the precharge switch is a MOS transistor with two parallel gates.

5. (Original) The photodetector of claim 4, wherein the gates of the two read transistors correspond to portions of first and second polysilicon strips and wherein the two gates of the MOS transistor with two gates correspond to portions of third and fourth parallel polysilicon strips, the sum of the surface areas exposed to light of the third and fourth parallel polysilicon strips being substantially equal to the sum of the surface areas exposed to light of the first and second polysilicon strips.

6. (Original) The photodetector of claim 5, wherein a fifth polysilicon strip, perpendicular to the third and fourth parallel polysilicon strips, connects the third and fourth parallel strips.

7. (Original) The photodetector of claim 6, comprising a metal strip connected to the fifth polysilicon strip, said metal strip comprising an extension partially covering the second polysilicon strip.

8. (Original) The photodetector of claim 1, wherein the gates of the charge transfer MOS transistors correspond to portions of polysilicon strips which extend between the second and third active areas.

9. (Currently Amended) A monolithic photodetector comprising:

a pixel of a pixel matrix, said pixel further comprising:

a first active area of doped single-crystal silicon including first and second photodiodes having a same surface area as two charge transfer MOS transistors, and as one storage diode;

a second active area of doped single-crystal silicon arranged next to a portion of the first active area associated with the second photodiode and including a precharge switch; and

a third active doped single crystal silicon area arranged next to the portion of the first active area associated with the first photodiode and including two read MOS transistors in series;

wherein the surfaces of the second and third active areas exposed to light are

substantially identical.

10. (Previously Presented) The photodetector of claim 9, wherein the second and third active areas have substantially identical surface areas.

11. (Previously Presented) The photodetector of claim 10, wherein first, second, and third active areas are rectangular, the second and third active areas being of same dimensions and substantially aligned at a same distance from a side of the first active area.

12. (Previously Presented) The photodetector of claim 9, wherein the precharge switch is a MOS transistor with two parallel gates.

13. (Previously Presented) The photodetector of claim 12, wherein the gates of the two read transistors correspond to portions of first and second polysilicon strips and wherein the two gates of the MOS transistor with two gates correspond to portions of third and fourth parallel polysilicon strips, the sum of the surface areas exposed to light of the third and fourth parallel polysilicon strips being substantially equal to the sum of the surface areas exposed to light of the first and second polysilicon strips.

14. (Previously Presented) The photodetector of claim 13, wherein a fifth polysilicon strip, perpendicular to the third and fourth parallel polysilicon strips, connects the third and fourth parallel strips.

15. (Previously Presented) The photodetector of claim 14, comprising a metal strip connected to the fifth polysilicon strip, said metal strip comprising an extension partially covering the second polysilicon strip.

~~14~~16. (Currently Amended) The photodetector of claim 9, wherein the gates of the charge transfer MOS transistor correspond to portions of polysilicon strips which extend between the second and third active areas.

17. (New) A monolithic photodetector comprising:

a pixel of a pixel matrix, said pixel further comprising:

a first active area of doped single-crystal silicon including first and second photodiodes having a same surface area as two charge transfer MOS transistors, and as one storage diode;

a second active area of doped single-crystal silicon arranged next to a portion of the first active area associated with the second photodiode and including a precharge switch; and

a third active doped single crystal silicon area arranged next to the portion of the first active area associated with the first photodiode and including two read MOS transistors in series;

wherein the second and third active areas exposed to light comprise substantially equal surface areas.

18. (New) The photodetector of claim 17, wherein first, second, and third active areas are rectangular, the second and third active areas being of same dimensions and substantially aligned at a same distance from a side of the first active area.